

WHAT IS CLAIMED:

1. A purified human nucleic acid comprising SEQ ID NO 1, or the complement thereof.
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2. The purified nucleic acid of claim 1, wherein said nucleic acid comprises a polynucleotide encoding for the amino acid sequence of SEQ ID NO 2.
3. The purified nucleic acid of claim 1, wherein said nucleotide sequence encodes for a polypeptide consisting of the amino acid sequence of SEQ ID NO 2.
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4. A purified polypeptide comprising SEQ ID NO 2.
5. The polypeptide of claim 4, wherein said polypeptide consists of the amino acid sequence of SEQ ID NO 2.
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6. An expression vector comprising a nucleotide sequence encoding for SEQ ID NO 2, wherein said nucleotide sequence is transcriptionally coupled to an exogenous promoter.
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7. The expression vector of claim 6, wherein said nucleotide sequence encodes for a polypeptide consisting of the amino acid sequence of SEQ ID NO 2.
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8. The expression vector of claim 6, wherein said nucleotide sequence comprises SEQ ID NO 1.
9. The expression vector of claim 6, wherein said nucleotide sequence consists of the sequence of SEQ ID NO 1.
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10. A recombinant cell comprising the expression vector of claim 6, wherein said cell comprises an RNA polymerase recognized by said promoter.

11. A recombinant cell made by a process comprising the step of introducing the expression vector of claim 6 into said cell.

5 12. A method of preparing a CACNA1Bsv1 polypeptide comprising the step of growing the recombinant cell of claim 10 under conditions wherein said polypeptide is expressed from said expression vector.

10 13. A method of screening for compounds able to bind selectively to CACNA1Bsv1 comprising the steps of:

(a) providing a CACNA1Bsv1 polypeptide comprising SEQ ID NO 2;

(b) providing a CACNA1B polypeptide that is not CACNA1Bsv1,

15 (c) contacting said CACNA1Bsv1 polypeptide and said CACNA1B polypeptide that is not CACNA1Bsv1 with a test preparation comprising one or more compounds; and

(d) determining the binding of said test preparation to said CACNA1Bsv1 polypeptide and said CACNA1B polypeptide that is not CACNA1Bsv1, wherein a test preparation which binds said CACNA1Bsv1 polypeptide but does not bind said CACNA1B polypeptide that is not CACNA1Bsv1 contains a compound that selectively binds said CACNA1Bsv1 polypeptide.

20 14. The method of claim 13, wherein said CACNA1Bsv1 polypeptide is obtained by expression of said polypeptide from an expression vector comprising a polynucleotide encoding the amino acid sequence of SEQ ID NO 2.

25 15. The method of claim 14, wherein said polypeptide consists of the amino acid sequence of SEQ ID NO 2.

30 16. A method of screening for a compound able to bind to or interact with a CACNA1Bsv1 protein or a fragment thereof comprising the steps of:

- (a) expressing a CACNA1Bsv1 polypeptide comprising the amino acid sequence of SEQ ID NO 2 or fragment thereof from a recombinant nucleic acid;
- (b) providing to said polypeptide a labeled CACNA1B ligand
- 5 that binds to said polypeptide and a test preparation comprising one or more compounds; and
- (c) measuring the effect of said test preparation on binding of said labeled CACNA1B ligand to said polypeptide, wherein a test preparation that alters the binding of said labeled CACNA1B ligand to said polypeptide contains a
- 10 compound that binds to or interacts with said polypeptide.

17. The method of claim 16, wherein said steps (b) and (c) are performed *in vitro*.

15 18. The method of claim 16, wherein said steps (a), (b) and (c) are preformed using a whole cell.

19. The method of claim 16, wherein said polypeptide is expressed from an expression vector.

20 20. The method of claim 16, wherein said CACNA1B ligand is a calcium channel-binder.

21. The method of claim 20, wherein said polypeptide consists of
25 an amino acid sequence provided for in SEQ ID NO 1 or a fragment of SEQ ID NO 1.

22. The method of claim 20, wherein said test preparation contains one compound.

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